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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,656	06/14/2005	Ulrik Mehr	66722-072-7	7353
25769 7590 11/29/2008 DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005				
EXAMINER				
LE, HUYEN D				
ART UNIT		PAPER NUMBER		
2614				
MAIL DATE		DELIVERY MODE		
11/20/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/530,656

**Applicant(s)**

MEHR ET AL.

**Examiner**

HUYEN D. LE

**Art Unit**

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (U.S. patent 5,357,051).

Regarding claims 1 and 5, Hwang teaches a layered structure comprising at least one layer which comprises first and second metallic leads (1, 2, 21, 22) adapted for feeding electric signals and adapted to comprise transmitter and receiver components. Each component comprises corresponding first and second electrical terminals, respectively, and the corresponding first terminals and the corresponding second terminals are adapted to be electrically connected by the first and second metallic leads, respectively (figures 1, 5, 6).

Hwang further shows the first and second leads which are adhered to the at least one layer on the layered structure as claimed (figures 1-4).

As shown in figures 1 and 2, the first and second leads (21, 22) are passed side by side and alternating on the two sides (10, 10a) of the layer (also see col. 2, lines 26-68 through col. 3, lines 1-7). Each lead (21, 22) is electrically connected from one side to the other side via through holes (20) in the at least one layer, and the first and second leads (21, 22) cross one another at a substantially right angle as claimed.

Hwang does not specifically teach that the leads (21, 22) are connected to an amplifier at one end and to a hearing aid receiver at the other end. However, Hwang teaches a receiver that operatively receives the signal output from a transmitter (figure 1), and providing a hearing aid that has a transmitter such as an amplifier and a receiver is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the printed circuit board (1, 21, 22), as taught by Hwang, for connecting an amplifier at one end and to a receiver in the other end of any electronic or audio devices such as a hearing aid for greater application and for reducing radio frequency interferences between any transmitter such as the amplifier and the receiver.

Further, Hwang does not specifically disclose that the four through holes (20) of two crossing leads substantially constitute a square as claimed. However, Hwang does estimate a square shape that is constituted from the four through holes (figures 3, 4).

Therefore, it would have been obvious to one skilled in the art to provide the four through holes (20) of the two crossing leads (21, 22) substantially constitute any shape such as a square shape depending on the applications or the size of the device.

Regarding claim 2, the leads (21, 22) of Hwang pass in a way that a maximum number of twists as claimed (figures 3, 4).

Regarding claim 3, Hwang shows the leads and the through holes as claimed (see figures 1-4). The Applicant should note the straight line or substantially straight line of the lead 21 or the lead 22 between the through holes 20 in figures 3 and 4. As broadly claimed, the through holes (20) for passing the leads through the layer are placed side-by-side with no more space there between than is necessary as claimed (figures 3 and 4).

Regarding claim 6, Hwang does not specifically show that each of the first and second leads is tapered in cross section as claimed. However, Hwang does not restrict to any shape for the leads (21, 22); it therefore would have been obvious to one skilled in the art to provide any shape for the leads (21, 22) of the twisted pair (2) such as each of the first and second leads is tapered in cross-section from opposite ends thereof to a middle area for an alternate choice and depending on the applications or the desired voltage.

### ***Response to Arguments***

3. Applicant's arguments filed 07/17/08 have been fully considered but they are not persuasive.

Responding to the arguments about that the first and second leads will cross one another at a substantially right angle but passing on each their side of the layer, and that the four through holes substantially constitute a square structure in the Hwang reference, the examiner refers to the Office Action. The Applicant should note that Hwang does teach the first and second conductive strips (21, 22) being passed side-by-side and alternating on the two sides (the upper

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side 10 and the bottom side 10a) of the layer (figure 2, col. 2, lines 26-68 through col. 3, lines 1-7). As shown in the drawings, the first and second leads (21, 22) cross one another at a substantially right angle as claimed. Further, Hwang does not specifically disclose that the four through holes (20) of two crossing leads substantially constitute a square as claimed. However, Hwang does estimate a square shape that is constituted from the four through holes (figures 3, 4).

Therefore, it would have been obvious to one skilled in the art to provide the four through holes (20) of the two crossing leads (21, 22) substantially constitute any shape such as a square shape depending on the applications or the size of the device.

Responding to the arguments about that the leads from one through hole of the layer to the next are drawn in a straight line and the through holes for passing the leads through the layer are placed side-by-side with no more space there between than is necessary for isolation purposes, the Applicant should note that Hwang does show and estimate a straight line for the leads (see the straight line or substantially straight line of the lead 21 or the lead 22 between the through holes 20 in figures 3 and 4 when the leads are constructed and used for reducing radio frequency interferences).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUYEN D. LE/  
Primary Examiner, Art Unit 2614

HL  
November 18, 2008

